

Cumene

(Isopropyl benzene)



Cumene is a colorless liquid in the alkyl aromatic family. It is soluble in nonpolar solvents such as alcohol, carbon tetrachloride and ether but insoluble in water. Although cumene is a naturally occurring substance present in coal tar and petroleum, most industrial cumene is synthesized from benzene and propylene. Georgia Gulf manufactures cumene at our plant in Pasadena, Texas.

Properties

Molecular weight	120.2
Melting point, °C	-96
°F	-141
Boiling point, °C	152.4
°F	306
Density, lb./gal at 60EF (15.6EC)	7.214
Flash point (closed cup), °C	43.9
°F	111
Autoignition temperature, °C	424
°F	795

Typical Analysis

Cumene, wt. %	99.9 <i>minimum</i> ASTM D-3760
Total impurities, wt. %	0.10 <i>maximum</i> ASTM D-3760
Phenolics, ppm	10 <i>maximum</i> ASTM D-1 783
Color (APHA)	15 <i>maximum</i> ASTM D-1209
Bromine index	100 <i>maximum</i> ASTM D-1492

Uses

Cumene is the major source of much of the phenol and acetone produced today. These two chemicals are produced by oxidizing cumene. The by-products, alpha-methyl styrene and acetophenone, are also produced from this reaction.

Handling and Storage

Cumene can be stored in carbon steel or other metal containers including copper, brass, stainless steel and cast iron. Cumene is a non-corrosive material. However, seals, gaskets, liners and other such parts for cumene service should be of an aromatic-resistant elastomer. Rubber-lined tanks should not be used. Local and federal regulations as well as insurance codes should be considered whenever cumene is stored, used or handled.

Since cumene is a combustible material, care should be taken to avoid overheating. Ignition of the liquid will occur at temperatures above the flash point. Concentrations of cumene in air between 0.9% and 6.5% are flammable.

The preferred method of extinguishing cumene fires is with an approved foam. Dry chemicals and carbon dioxide extinguishers can also be used. Water should be used as necessary to keep exposed containers or equipment cool. It should be recognized that water may promote the spread of flames or spills because of the lighter density of cumene.

Water spray may be used to disperse fumes and provide additional protection for personnel wearing the proper protective clothing while attempting to stop leaks. Personnel should be provided with approved respiratory and skin protection when exposure is possible since cumene is readily absorbed through the skin.

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IMPORTANT: The technical data herein is believed to be accurate. It is offered for your consideration investigation and verification. Buyer assumes all risk of use, storage and handling of the product.

No warranty, expressed or implied, is made including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.

Nothing contained herein shall be construed as a license to operate under, or recommendation to infringe, any patents.

Cumene spills may need to be reported to the National Response Center (800-424-8802). Disposal of spill material should be in compliance with local, state and federal regulations.

More information on the safe handling of cumene is contained in the Material Safety Data Sheet available from Georgia Gulf.

Shipping

Georgia Gulf ships cumene in ocean going vessels, barges and trucks from our plant in Pasadena, Texas.

The Department of Transportation (DOT) regulates the shipment of cumene, and information concerning placarding and reportable quantity requirements for any quantity of shipment is

available from the DOT Materials Transportation Bureau or from Georgia Gulf.

Cumene is described for domestic shipments as a Combustible Liquid Not Otherwise Specified (NOS) with a Hazardous Materials Identification Number of NA 1993. For international shipments, the proper shipping name is Isopropylbenzene. It is described as a flammable liquid with an identification number of UN 1918. The International Maritime Organization (IMO) Class is 3.3. Any signs of leaking product during shipping or unloading should be given prompt attention. In case of emergency, contact CHEMTREC at 800-424-9300.

Sales and Service

Competent sales representatives are available to help meet your needs with Georgia Gulf chemicals.